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TOXICOLOGICAL ANALYSIS.

The Detection and Estimation of Free Phosphorus in Oils and Fats. E. Louïse. (*Comptes Rend.*, 1899, cxxix., 394, 395.)—The methods used for the detection and estimation of phosphorus in toxicological work are not available when only traces of phosphorus are present in a large amount of oil. For it cannot be volatilized in a short time with vapour, whilst if the current be continued too long some of the phosphorus will be oxidized and left behind. Other methods based on the oxidation of the phosphorus are, in the author's opinion, also inapplicable under these circumstances.

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This difficulty may be obviated by diluting the oil with acetone and precipitating the phosphorus by means of a concentrated solution of silver nitrate.

Five grammes of the oil are made up to 100 c.c. with acetone and the liquid divided into 10 portions. To the first of these is added 1 drop of a 10 per cent. solution of silver nitrate, the liquid filtered, and the filtrate again tested with silver nitrate. If a coloration be obtained, the second tube is tested with 2 drops of the silver nitrate solution in the same way, and so on until the point is reached at which the precipitation is complete. Say, for example, that 2 drops have been found insufficient and 3 too many. Two drops of the 10 per cent. solution are then added to a fresh portion and the intermediate point determined by means of a 1 per cent. solution of silver nitrate. In this way traces of phosphorus in oil can readily be determined in terms of standard silver nitrate. C. A. M.

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